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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/727,786	12/04/2003	Duck Young Jung	SUN-0034	6887

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EXAMINER
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PETERSON, CHRISTOPHER K

ART UNIT	PAPER NUMBER
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2609

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/02/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing-date of this communication.

**Office Action Summary**

Application No.

10/727,786

Applicant(s)

JUNG, DUCK YOUNG

Examiner

Christopher K. Peterson

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– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_.

**DETAILED ACTION**

***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Ejima (US Patent # 6,327,423).

As to claim 1, Ejima (see fig. 6) discloses an image signal processing system comprising:

- an image sensor (CCD 20 and photometric device 16) for receiving an image of a subject in a light form under the control of a shutter control signal to generate analog signals (Col. 5, lines 44 – 55);
- a variable gain amplifier (image processing unit 31) for amplifying output signals of the image sensor (20 and 16) under the control of a gain control signal to maximize dispersion of the analog signals (Col. 5, lines 56 – 65);

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- a first A/D converter (32) for receiving the output signals of the variable gain amplifier (31) and converting the received output signals into digital signals (Col. 5, lines 56 – 65);
- a second A/D converter (photometric circuit 51) for receiving the output signals of the image sensor (20 and 16) and converting the received output signals into the digital signals (Col. 6, lines 41 – 46);
- an image data processor (DSP 33 and CPU 39) for receiving the output signals of the first A/D converter (32) and the output signals of the second A/D converter (51) to find a movement value and generating the gain control signal and the shutter control signal (Col. 5, lines 56 – 65 and Col. 6, lines 13 – 21, 43 - 47).

As to claim 2, Ejima teaches the image signal processing system as claimed in claim 1, wherein the shutter control signal is generated by using the output signals of the second A/D converter (51) (Col. 7, lines 5 – 9 and 56 - 60).

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ejima in view of Kim (US Patent # 6,587,144).

As to claim 5, this claim differs from claim 1 only in that the limitation "a direct current offset controller" is additionally recited. Ejima does not teach a direct current offset controller for controlling direct current offsets of output signals of the image sensor under the control of an offset control signal. Kim (see fig. 3) teaches a direct current offset controller (CDS circuit 100) for controlling direct current offsets of output signals of the image sensor under the control of an offset control signal (Col. 3, lines 36 – 53).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have added a direct current offset controller for controlling direct current offsets of output signals of the image sensor under the control of an offset control signal as taught by Kim to the image processing apparatus of Ejima, because the use of a direct current offset controller will decrease the chip size and power consumption of the digital comparison circuit (Col. 7, lines 21 – 30).

As to claim 6, this differs from claim 2 only in that claim 2 is an apparatus claim whereas claim 6 is a method. Thus claim 6 is analyzed as previously discussed with respect to claim 2 above.

6. Claims 3 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ejima in view of Shiga (US Patent Pub # 2005/0062874).

As to claim 3, Ejima teaches the limitation "variable gain amplifier". Ejima does not teach a variable gain amplifier is a sample-and-hold amplifier architecture. Shiga (see fig. 1) teaches a variable gain amplifier (4) as a sample-and-hold amplifier

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architecture. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided a variable gain amplifier with a sample-and-hold amplifier architecture taught by Shiga to the variable gain amplifier of Ejima, because the use of a sample and hold / gain control circuit is advantageous in that it does not give rise to such deterioration of a signal or decrease of the information amount of image data (Para 0105).

As to claim 7, this differs from claim 3 only in that claim 3 is an apparatus claim whereas claim 7 is a method. Thus claim 7 is analyzed as previously discussed with respect to claim 3 above.

7. Claims 4 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ejima in view of Nagata (US Patent # 6,366,228).

As to claim 4, Ejima teaches the limitation "A/D converter". Ejima does not teach an A/D converter is configured of a plurality of analog comparators. Nagata (see fig. 8) teaches an A/D converter configured of a plurality of analog comparators (CMP1 – 4)(Col. 12, lines 24 – 53). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided an A/D converter with a plurality of analog comparators taught by Nagata to the A/D converter of Ejima, because the use of analog comparators reduces the manufacturing cost and power (Col. 18, lines 43 - 55).

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As to claim 8, this differs from claim 4 only in that claim 4 is an apparatus claim whereas claim 8 is a method. Thus claim 8 is analyzed as previously discussed with respect to claim 4 above.

### ***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Uchida (US Patent # 7,039,307) teaches a digital still camera, imaging and method, and exposure decision method.

Ouchi (US Patent # 5,867,213) teaches an image pickup apparatus having image-shake correction devices determined according to zoom magnification power.

Yoo (US Patent # 7,009,653) teaches a photographing apparatus having function of preventing blur of still image.

### ***Inquiries***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher K. Peterson whose telephone number is 571-270-1704. The examiner can normally be reached on Monday - Friday 7:30 - 5:00 EST.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chanh D. Nguyen can be reached on 571-272-7772. The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CKP  
26 February 2007

  
**CHANH D. NGUYEN**  
**SUPERVISORY PATENT EXAMINER**